

Abstract of the Disclosure

A training system using haptically enhanced simulations of dental procedures to provide the sensorimotor involvement needed for dental training. To provide touch feedback in combination with a realistic visual experience, the system integrates a haptic stylus interface for simulating the movement and feel of the tool-tip with a three-dimensional, stereoscopic display. The haptic stylus enables the dental student to orient and operate simulated dental tools. Working on a virtual model viewed in a stereo display, dental students can use a simulated pick to probe a tooth, or a simulated drill to prepare a tooth for cavity repair. The touch feedback is simulated by representing these dental instruments as force-to-a-point tools which map to haptic simulation procedures executed on a computer workstation that also provides the visual display.